CLAIMS

What is claimed is:

1. A modular long bone prosthesis comprising:

a proximal component configured at a proximal end to receive a head forming a portion of a joint and formed at a distal end to mate with additional prosthesis components, the proximal component being formed to simulate an angle inherent in the proximal end of the bone to be replaced, the proximal component including an indicator adjacent the distal end to facilitate rotational alignment of the proximal component and additional prosthesis components;

a retroversion component having a proximal end configured to mate with the distal end of the proximal component, the proximal end including alignment indicia for positioning relative to the indicator on the proximal component; and

wherein when the indicator is in a first position relative to the alignment indicia the proximal component and the retroversion component establish a first alignment orientation forming an angle simulating the angle inherent in the proximal end of the right long bone of the long bone to be replaced and when the indicator is in a second position relative to the alignment indicia the proximal component and the retroversion component establish a second alignment orientation forming an angle simulating the angle inherent in the proximal end of the left long bone of the long bone to be replaced

2. The device of claim 1 wherein the retroversion component has a distal end configured for mating with other components of the prosthesis and further comprising a distal component configured on its distal end to form a portion of a joint to

act as the distal end of a total bone prosthesis and formed at the proximal end for coupling to the distal end of other components of the prosthesis and wherein the proximal component is mounted to the retroversion component and the distal component is coupled to the retroversion component to form a total long bone prosthesis.

3. The device of claim 2 wherein the distal component is formed to define an axis of rotation about which the bone to be coupled to the distal end of the total long bone prosthesis is to pivot and the proximal component includes a neck axis about which the head is mounted and wherein the proximal component, distal component and retroversion component are formed to establish the angle between the neck axis and the rotation axis.

4. The device of claim 3 wherein the proximal component, distal component and retroversion component are formed to permit assembly in precisely two configurations, one of which establishes the angle in a manner appropriate for a right total long bone prosthesis and the other of which establishes the angle in a manner appropriate for a left total long bone prosthesis.

5. The device of claim 3 wherein the proximal component, distal component and retroversion component are formed to permit assembly in two ranges of configurations, wherein one range of configurations facilitates establishing the angle within limits in a manner appropriate for a right total long bone prosthesis and the other range of configurations facilitates establishing the angle within limits in a manner appropriate for a left total long bone prosthesis.

6. The device of claim 2 and further comprising a spacer component configured to be disposed between and coupled to the proximal and distal components to

form a longer total long bone prosthesis, the spacer component having a length by which the length of the total long bone prosthesis is increased when the spacer component is mounted to the retroversion component and one of the distal and proximal components to form the longer total long bone prosthesis.

7. The device of claim 6 and further comprising a second spacer component configured to be disposed between and coupled to the proximal and distal components to form a second longer total long bone prosthesis, the second spacer component having a length by which the length of the total long bone prosthesis is increased when the second spacer component is mounted to the retroversion component and one of the distal and proximal components to form the second longer total long bone prosthesis and wherein the second longer total long bone prosthesis is longer than the longer total long bone prosthesis.

8. A modular long bone prosthesis system for replacing all or a portion of a long bone having a head and neck at its proximal end and a pivot axis about which the bone with which the long bone articulates pivots at the distal end, the system comprising:

a proximal component configured to replace the neck of the long bone and to receive a component for replacing the head at a proximal end, a distal component configured at its distal end to include a pivot axis about which the bone with which the long bone articulates may pivot, a retroversion component, a spacer component, and a stem component and wherein:

the proximal component is configured on its distal end to mount to one of the retroversion component, the stem component and the spacer component;

the distal component is configured on its proximal end to mount to one of the retroversion component, the stem component and the spacer component;

the retroversion component is configured to mount at one end to one of the distal component and the spacer component and at the other end to one of the proximal component and the spacer component;

the spacer component is configured at one end to mount to one of the distal component and the proximal component and at the other end to mount to one of the retroversion component and the stem component;

the stem component is configured at one end to couple to one of the distal component, the proximal component and the spacer component and configured at the other end to be received in the intramedullary canal of the long bone; and

wherein the proximal component, distal component and retroversion component when coupled form a total long bone prosthesis exhibiting a retroversion angle found in the long bone, the proximal and stem components when coupled form a proximal prosthesis, and the distal and stem components when coupled form a distal prosthesis.

9. The system of claim 8 wherein the proximal component, distal component and retroversion component when coupled in a first configuration form a right total long bone prosthesis and when coupled in a second configuration form a left total long bone prosthesis.

10. The system of claim 9 wherein the spacer segment when coupled between the proximal and distal components of the total long bone prosthesis forms a longer total long bone prosthesis.

11. The system of claim 10 comprising a plurality of spacer components each having a differing length and configured at one end to mount to one of the distal component and the proximal component and at the other end to mount to one of the retroversion component and the stem component.

12. The system of claim 11 comprising a second stem component and an intercalary component configured at both ends to mount to one of a stem component and a spacer component and the intercalary component first stem component and second stem component when coupled form an intercalary prosthesis.

13. The system of claim 8 wherein the spacer component is formed to include a suture attachment location for attachment of a ligament of a muscle to the prosthesis.

14. A modular humeral prosthesis system for replacing all or a proximal part of either a right or left human humerus having a head forming a retroversion angle with the pivot axis of the forearm, the system comprising:

a proximal component configured to replace the neck of the humerus and to receive a component for replacing the head of the humerus at a proximal end, a distal component configured at its distal end to include a pivot axis about which the forearm pivots, a retroversion component, a plurality of spacer components, and a stem component, wherein:

the proximal component is configured on its distal end to mount to one of the retroversion component, the stem component and one of the plurality of the spacer components;

the distal component is configured on its proximal end to mount to one of the retroversion component, the stem component and one of the plurality of the spacer components;

the retroversion component is configured to mount at one end to one of the distal component and one of the plurality of the spacer components and at the other end to one of the proximal component and one of the plurality of the spacer components;

each spacer component is configured at one end to mount to one of the distal component and the proximal component and at the other end to mount to one of the retroversion component and the stem component and one of the plurality of spacer components is longer than the other of the plurality of spacer components;

the stem component is configured at one end to couple to one of the distal component, the proximal component and the spacer component and configured at the other end to be received in the intramedullary canal of the long bone; and

wherein the proximal component, distal component and retroversion component when coupled form a total humeral prosthesis exhibiting a retroversion angle found in the humerus, the proximal and stem components when coupled form a proximal humeral prosthesis, and the distal and stem components when coupled form a distal humeral prosthesis.

15. The system of claim 14 wherein when the proximal component, distal component and retroversion component are mounted in a first orientation, a right total humeral prosthesis is formed, and wherein when the proximal component, distal component and retroversion component are mounted in a second orientation, a left total humeral prosthesis is formed.

16 The device of claim 15 wherein one of the proximal component and the retroversion component is formed to include an indicator mark and the other of the proximal component and retroversion component is formed to include a first alignment mark and a second alignment mark and wherein when the indicator is aligned with the first alignment mark, the proximal component, distal component and retroversion component are mounted in the first orientation and when the indicator mark is aligned with the second alignment mark the proximal component, distal component and retroversion component are mounted in the second orientation.

17. The device of claim 16 wherein the indicator is a tab and the first alignment mark is a slot.

18. The device of claim 14 wherein one of the other of the plurality of a spacer segments is mounted between and the proximal and distal components to form a longer total humeral prosthesis.

19. The device of claim 18 wherein the one of the plurality of spacer components is mounted between and the proximal and distal components to form a second longer total humeral prosthesis and wherein the second longer total long bone prosthesis is longer than the longer total long bone prosthesis by an incremental length.

20. The device of claim 19 wherein the incremental length is five millimeters.